

REMARKS

Applicants appreciate the detailed examination evidenced by the Office Action mailed August 25, 2006 ("Office Action"). Applicants have canceled Claims 60-62 to reduce the number of issues under consideration. Applicants respectfully request reconsideration and withdrawal of the rejections of Claims 1 and 3-39 for at least the reasons discussed below.

Independent Claims 1, 12, 23 and 27 are patentable

Claim 1, which stands rejected as allegedly anticipated by U.S. Patent No. Re 36,469 to Wood et al. ("Wood"), recites:

An electronic module, comprising:
a monolithic microelectronic substrate including a plurality of integrated circuit dice and a redistribution structure thereon providing an edge connector contact coupled to at least one of the plurality of integrated circuit dice, the edge connector contact configured for mating with a contact of an edge connector that is configured to engage an edge of the substrate.

In rejecting Claim 1, the Office Action cites FIGs. 3, 5, 8 and 12 of Wood. *See* Office Action, p. 2. In particular, the Office Action cites I/O pads 26 as corresponding to the recited "compressive edge connector contact." *See* Office Action, p. 3.

As an initial matter, Applicants note that the embodiments in FIGs. 3, 5 and 12 are not "monolithic microelectronic substrates" as recited in Claim 1. Rather, FIGs. 3, 5 and 12 show multi-component structures in which a flex circuit 12 is attached to the underlying die 10 by solder bumps. *See, e.g.*, Wood, column 8, lines 16-20. For at least these reasons, the structures shown in FIGs. 3, 5 and 12 do not anticipate Claim 1.

FIG. 8 shows a monolithic substrate including die 10 with layers 16 of conductive and insulative layers 16 added thereto. As explained in Wood, the layers 16 "perform the function of the flex circuit of the embodiments having the flex circuit." Wood, column 10, lines 37-38. The substrate including the die 10 and the layers 16 is attached to a die mount 40. *See* Wood, column 11, lines 6-7.

However, still referring to FIG. 8 and the description thereof at column 11, lines 6-18, Wood does not disclose that the conductive trace 56, which would appear to be the correlate of the trace 26 shown in FIGs. 3 and 5, is "configured for mating with a contact of an edge connector that is configured to engage an edge of the substrate." Rather, the trace 56 overlies

the die mount 40, such that it appears that an edge connector that has contacts that engage the trace 56 would engage an edge of the die mount 40, not an edge of the substrate including the die 10 and the layers 16. Thus, Wood does not disclose or suggest all of the recitations of Claim 1 and, for at least these reasons, Applicants submit that Claim 1 is patentable.

Claim 12, which also stands rejected as allegedly anticipated by Wood, recites:

An electronic module, comprising:
a microelectronic substrate including a plurality of integrated circuit dice therein ; and
a redistribution structure comprising interleaved conductive and insulation layers formed on the plurality of integrated circuit dice, the redistribution structure extending across a surface of the substrate to overlie at least portions of each of the plurality of integrated circuit dice and including at least one conductive layer including a compressive connector contact opposite the surface of the substrate and coupled to at least one of the plurality of integrated circuit dice.

In rejecting Claim 12, the Office Action cites the same portions of Wood cited in rejecting Claim 1. *See* Office Action, pp. 2 and 3.

Applicants submit that, among other things, the cited material from Wood does not teach or suggest "a compressive connector contact opposite the surface of the substrate and coupled to at least one of the plurality of integrated circuit dice." As noted above, FIG. 8 of Wood shows a contact trace 56 that overlies a die mount 40 and, thus, is not "opposite the surface of the substrate" on which the redistribution structure is formed. The structures shown in the cited FIGs. 3, 5 and 12 similarly fail to show the claimed structure, as they each show a trace overlying a die mount 40 in a manner similar to the structure of FIG. 8 and, thus, also do not disclose or suggest "a compressive connector contact opposite the surface of the substrate and coupled to at least one of the plurality of integrated circuit dice." Accordingly, Applicants submit that Wood does not disclose or suggest all of the recitations of Claim 12 and, for at least these reasons, Claim 12 is patentable. Applicants submit that Claims 23 and 27 are patentable over Wood for at least similar reasons.

The dependent claims are patentable

Applicants submit that dependent Claims 3-11, 13-22, 24-26, and 28-39 are patentable at least by virtue of the patentability of the respective ones of independent Claims 1, 12, 23

and 27 from which they depend. Applicants further submit that several of the dependent claims are separately patentable.

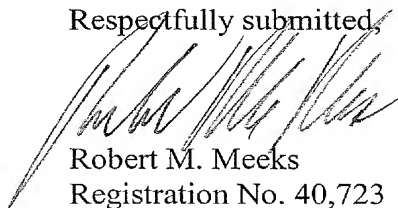
For example, Claim 13, which stands rejected as allegedly anticipated by Wood, recites "wherein the connector contact comprises an edge connector contact configured for mating with a contact of an edge connector that is configured to engage an edge of the substrate." Applicants submit that Claim 13 is patentable over Wood for at least similar reasons to those discussed above with reference to Claim 1.

Claim 6 recites "wherein the redistribution structure comprises a land configured to provide electrical connection to a contact pad of an electronic device mounted on the substrate," and Claim 7 recites "an electronic device mounted on the substrate and having a contact pad electrically coupled to the land." In rejecting these claims as being allegedly obvious over a combination of Wood and U.S. Patent No. 5,874,770 to Saia et al. ("Saia"), the Office Action provides no indication as to where Wood and/or Saia provide such teachings. Applicants submit that such teachings are absent from Wood and Saia and, for at least these reasons, Applicants submit that Claims 6 and 7 are separately patentable. Applicants further submit that at least similar reasons support the separate patentability of Claims 17, 18, 38 and 39.

Conclusion

As all of the claims are now in condition for allowance, Applicants respectfully request allowance of the claims and passing of the application to issue in due course. Applicants urge the Examiner to contact Applicants' undersigned representative at (919) 854-1400 to resolve any remaining formal issues.

Respectfully submitted,



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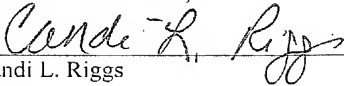
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